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Exploring Sustainable Healthcare Service and Sustainable Healthcare Performance: Based on Malaysian Healthcare Industry

Noor Hidayah Jamaludin[1], Nurul Fadly Habidin[2], Nurul Aifaa Shazali[1], Naimah Ali[1], Nur Afni Khaidir[1]

[1]Department of Accounting and Finance, Universiti Pendidikan Sultan Idris, 35900 Tanjung Malim, Perak, Malaysia

[2]Department of Management and Leadership, Universiti Pendidikan Sultan Idris, 35900 Tanjung Malim, Perak, Malaysia

Corresponding author: Nurul Fadly Habidin, *Department of Management and Leadership, Universiti Pendidikan Sultan Idris, 35900 Tanjung Malim, Perak, Malaysia*

Abstract: Sustainable practice is increasingly implemented in the healthcare industry. Recent studies continue to discover the relationship between health and environment. The purpose of this paper is to examine the relationship of Sustainable Healthcare Service (SHS) and Sustainable Healthcare Performance (SHP) in Malaysian healthcare industry. A conceptual model using Structural Equation Modeling (SEM) has been proposed. This model will be used to study the relationship between SHS and SHP for Malaysian healthcare industry. The paper culminates with suggested future research work.

Keywords: Sustainable healthcare service, sustainable management, sustainable performance, Healthcare industry.

1. Background of the Study

Healthcare industry in Malaysia has been growing rapidly and steadily since the beginning of 90's and has identified as one of the National Key Economic Areas (NKEA) under the 10th Malaysia Plan (2011-2015). According to Castro (2009), healthcare in Malaysia has undergone radical transformation. Over the years in Malaysian Healthcare industry, Malaysia has been continuously vigilant about their Healthcare system. However, today's healthcare industry continuously facing excessively increased cost, declining profitability, administrative inefficiency, and steep regulatory compliance. It is time for Malaysia to review our healthcare business strategy whether to adopting a market-driven healthcare system like Singapore or resorting to a single payer National Health System (NHS).

In order to compete globally, sustainable has become an important strategy in service industries. The word 'sustainable' has been a concern since the 1980's. Sustainable issues are now a top priority for most companies no matter non-profits, venture capital, or governments, all are increasingly sought to engage sustainable in their company (Hannon and Callaghan, 2011; Smith, 2012). A typical source to define 'sustainable' is from a report at World Commission on Environment and Development 1987. It states that development is sustainable when the development meets the present needs without affect the capability of next generation to meet their own needs. Sustainable healthcare can defined as a complex system of interacting approaches to the restoration, manage and optimization of human health and environmental, and competitive in the economic and social development. (Alliance for Natural Health, 2008).

In this study, we use the term of sustainable service as Sustainable Healthcare Service (SHS) and sustainable performance as Sustainable Healthcare Performance (SHP). SHS have three domain categories that are namely; Quality Patient Care (QPC), Economic Concerns (EC), Social (SC), and Environmental Cost (ECT). Apart from that, there are three elements of SHP which is; Environment (E), Social Responsibility (SR) and Economic (EM). The

objectives of this study are:

i. To identify SHS and SHS measures for Malaysian Healthcare Industry.
ii. To determine the impact of SHS on SHP
iii. To develop a research model of SHS and SHP.

2. Literature Review

2.1 Sustainable Healthcare Service (SHS)

In just over ten years, corporate sustainability reporting has transformed from voluntary to the compulsory. According to CorporateRegister.com, an independent reference source, less than 500 companies issued sustainability reports in 1999. The number is approaching to 3500, reflecting the growing trend among companies worldwide to issue reports demonstrating their commitment to environmental and social targets along with traditional financial ones (Economist Intelligence Unit, 2010).

Sustainable is a gaining a win–win outcome towards the improved environment and the advanced society, and at the same time for achieving competitive advantages and economic benefits (Shen, 2010). Meanwhile, SHS is a health service when operated by an organizational system with the long-term ability to drive and consign sufficient resources for activities that meet individuals or public health needs (Olsen, 1998). However, the definition of sustainable development and sustainability is not identical, even the fundamental sense is basically the same (Moldan, 2012). Table 1 shows the others definition of sustainable based on previous studies.

Table 1: Definition of Sustainable

Author	Definition
Szekely and Knirsch, (2005)	Involves sustaining and develop economic growth, shareholder value, prestige, corporate reputation, customer relationships, and the quality of products and services.
Doane and MacGillivray (2001)	Long-term survival; environmentally, socially and economically.
(Laszlo, 2003; Waddock and Bodwell, 2007; Sebhatu, 2008).	Require the changes of mind set and commitment of the leadership and organizational performance to include key stakeholders.

Other countries in Asia Pacific and the United States started to recognize the economic, social, and environment as the factors that contribute to the sustainable in manufacturing industry (Seidel *et al*., 2007; Jayal *et al*., 2010; Gunasekaran and Spalanzani, 2011; Zubir *et al*., 2012). Hence, the performance characteristics of sustainability hospital can be measured such as waste reduction, avoidance and disposal, water and energy management, air emissions monitoring and reduction, environmentally preferable purchasing, reducing toxic and carcinogenic chemical and material usage, greener cleaning, upgrading equipment to higher efficiency are the characteristics of a sustainable hospitals Environment Science Center (2007).

A sustainable National Healthcare Service is successfully achieved if only the leaders, public, patients, staff and other organizations play their important roles where the leaders become the central who set the tone and strategic direction (Ling *et al*., 2012). Lieberson *et al*., (1985) identified several factors that influencing the sustainability of the Mass Media and Health Practices (MMHP) project in The Gambia. There are four categories of sustainability factors which is: economic and financial factors; project design and implementation factors; the

organization and management structure of the project; and the political and socio cultural context in which the project will operate. Besides, SHS factors can be divided into contextual factors, activity profile, and organizational capacity. These factors are the main factors that determine how inputs are converted into outputs (Olsen, 1988).

According to Fairfeild *et al*. (2011), there are four types of sustainability practice; through environmental, workplace, product and service development, and stakeholder engagement. Some of sustainable practices are focused on improving eco-efficiency and reducing environmental pollution by energy preservation, using the renewable and local energy resources, and reduction of pollution and waste. Besides, other practices are focusing on worker's health and safety, employee engagement, work-life balance, civic volunteerism, and ethical governance, while slowly applying sustainability criteria into talent and performance management systems.

Jameton and McGuire (2002) also suggest that sustainability involves balancing three factors which are patient care, economic concerns, and environmental cost. Otherwise, in Szekely and Knirsch, (2005) states that there are two types of factors favoring the adoption of a sustainable approach which are internal and external factors. In this study, internal factors are grouped into 3 categories which are managerial factors, operational factors (environmental), and economic factors (cost). The summary of research factors are listed in Table 2 as below.

Table 2**:** The summary research factors on SHS

Factor	Authors
Economic Concerns	Lieberson *et al.,* (1985), Jameton and McGuire (2002), Szekely and Knirsch, (2005), Stoner *et al,*. (2008), Smith (2012).
Environmental Costs	Jameton and McGuire (2002), Szekely and Knirsch, (2005), ESC (2007), Fairfeild *et al.* (2011), Schoenherr (2011), Smith (2012).
Quality Patient Care	Lieberson *et al*., (1985), Olsen (1998), Jameton and MgGuire (2002), Szekely and Knirsch (2005), and Smith (2012).
Social	Lieberson *et al*., (1985), Szekely and Knirsch (2005), Smith (2012).

2.2 Sustainable Healthcare Performance (SHP)

Health care's role in society is changing, similarly to how the trend for industry is to now involve social responsibility into their environmental policy and mission. Environmental and social regulation is becoming stricter since information is communicated easily in this social technology era, forcing politicians and governments to react to changing situation (Smith, 2012).

Over the last decade, there has been an increased pressure on organizations to focus on sustainability and accountability in business performance beyond that of financial performance (Lee and Saen, 2011). The objective of a sustainable measure is to assess corporate contribution to sustainability comprising environmental, social, and economic (Lawrence, 1997). Sustainability performance defined as the performance of a company in all dimensions and for all drivers of corporate sustainability (Schaltegger and Wagner; 2006; Sebhatu, 2008).

The principles of sustainability help businesses to reduce unimportant risks, avoid waste generation, increase material and energy efficiency, innovating new, environmentally friendly products and services and provide operating permits from local communities. Businesses can become more profitable and sustain their activities over the long term by adopting sustainability. The sustainability approach is a process by which companies interacting their economic, social and environmental objectives into their business strategies and optimize the balance among all three (Szekely and Knirsch, 2005).

Study by Li and Li (2010) showed the defect of traditional performance evaluation system and reconstructs performance evaluation system by taking sustainable development view as the guidelines. In addition, there are five types of performance index stated in their study which are; economic, management, social responsibility, and customer satisfaction.

Others study by Doane and MacGillivray (2001) showed that economic sustainability is pushing us to look on the internal and external implications of sustainability management. Thus, managing economic sustainability must consider the financial performance of a company how the company manages intangible assets, its influence on the broader economy, and how it influences and manages social and environmental impacts.

Sustainability has been defined as economic development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs and for businesses it includes issues of corporate social responsibility and citizenship together with improved management of corporate social and environmental impacts and improved stakeholder engagement (Epstein, 2008).

Shen (2010) reveals the insufficiency of examining the performance of implementing a construction project from the perspective of sustainable development. Shen (2010) also suggest the need for shifting the traditional approach of project feasibility study to a new approach that embraces the principles of sustainable development. In relation to that, sustainable practice is

to pursue a balance among economical, social, and environmental performance in managing any project or organization. Next, the summaries of factors of SHP are listed in Table 3 as below.

Table 3: The summary research factors on SHP

Performances	Authors
Economic	Doane and MacGillivray (2001), Szekely and Knirsch (2005), Xu and Rakesh (2006), Epstein (2008), Amrina and Yusoff (2010), Li and Li (2010), Shen (2010),
Environment	Szekely and Knirsch (2005), Epstein (2008), Shen (2010), Moldan (2012).
Social Responsibility	Szekely and Knirsch (2005), Malovics *et al*., (2008), Epstein (2008), Li and Li (2010), Shen (2010).

2.3 Sustainable Healthcare Service and Sustainable Healthcare Performance

Recent international research has begun to identify the relationship between SHS and SHP (Eshlaghy *et al*., 2011). They study determine and analyze effective factors on sustainability of improved processes, using discriminate regression and a model for sustainable improved processes. Their finding concluded that some factors such as a list of daily problems of processes, clear perception of the necessity of improvement, process monitoring and standardization are selected as independent or predictive variables with a significant effect on discrimination of two sustainability groups (as dependent variables) which considered as performance. Not much of recent research studies the relationship between SHS and SHP. Despite that, this study will use reports, articles, and case study on SHS and SHP in order to analyze the relationship between SHS and SHP.

To understand the relationship of SHS on SHP in Malaysian Healthcare Industry, the following hypotheses were set up to be tested. These hypotheses

will be stated based on a numbering system from H_1 according to literature review above. This style of hypothesis statement is chosen due to the nature of answering hypotheses using structural equation modeling methods.

H_1: There is a positive and direct significant relationship between SHS implementation and SHP in Malaysia

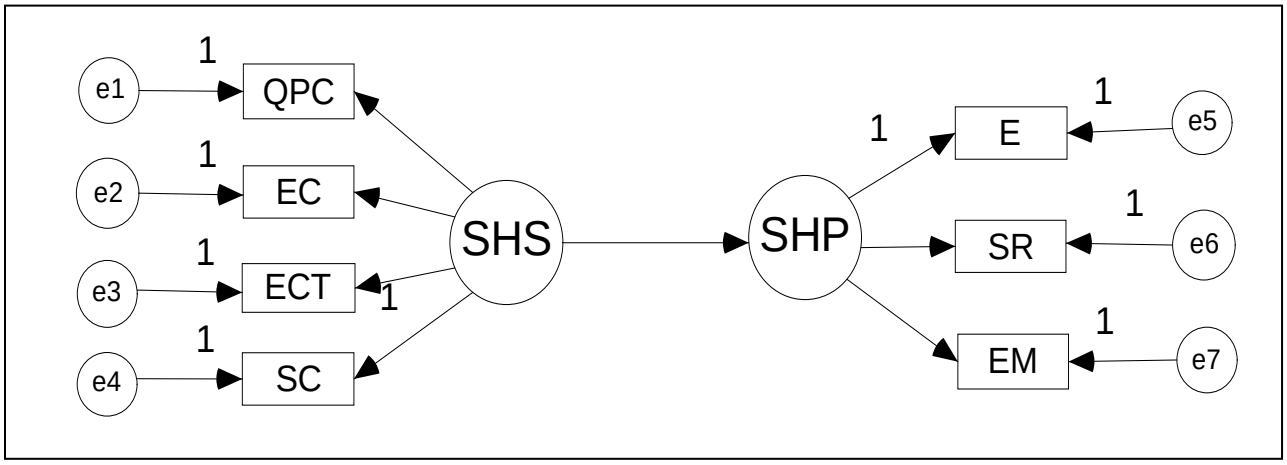
3. Methodology

In this study, sample methods are by using structured questionnaire. The population of this study comprised in Malaysian Healthcare Industry. Questionnaires will distribute to respondents from Malaysian Hospital. To analyze the data, two statistical techniques were adopted. A Structural Equation Modeling (SEM) technique was utilized to perform the required statistical analysis of the data from the survey. Exploratory factor analysis, reliability analysis and confirmatory factor analysis to test for construct validity, reliability, and measurements loading were performed. Having analyzed the measurement model, the structural model was then tested and confirmed.

The statistical Package for the Social Sciences (SPSS) version 17 was used to analyze the preliminary data and provide descriptive analysis about thesis sample such as means, standard deviations, and frequencies. SEM using AMOS 6.0 will be as a guide to test the measurement model.

4. A Proposed Research Model

Based on the literature review, several previous studies were explored about SHS and SHP. The research aims at analyzing of the relationship between SHS and SHP in Malaysia. This model is called proposed research model as presented in Figure 1.



**Note*: QPC = Quality Patient Care; EC = Environmental Cost; ECT = Economic Concern; SC = Social; SHS = Sustainable Healthcare Service; SHP = Sustainable Healthcare Performance; E = Economic; SR = Social Responsibility; EM = Environment

Figure 1: Proposed Model of the Study

5. Conclusion and Future Research

As mentioned, healthcare's role in society is changing, similarly to how the trend for industry is to now involve social responsibility into their environmental policy and mission. SHS has become most important for SHP and it involves local healthcare industry in their effort to become more competitive in pursuing to enhance the organization ability to improve SHP. This study expected to provide valid and reliable for instrument and structural relationship model for SHP constructs. Next agenda, the expected finding to provide valid and reliable for instrument and structural relationship model for SHP that benefited and contribute not only to academic but also to the industry, especially to the Malaysian healthcare practitioners as a whole in making the model and the tool of this study as a benchmark to serve as a guide and reference resources to implement SHS and SHP.

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References

[1] Amrina, E., and Yusof, S.M. (2010). Manufacturing performance evaluation tool for Malaysian automotive small and medium-sized enterprises. International Journal of Business and Management Sciences, 3 (2): 195-213.

[2] Castro, J. M. (2009). Health Care in Malaysia. Available at http://www.expatforum.com/articles/health/health-care-in-malaysia.html. Accessed September 26, 2012.

[3] Doane, D. and MacGillivray, A. (2001). Economic sustainability the business of staying in business, R&D Report for SIGMA Project 2001.

[4] Economist Intelligence Unit (EIU). (2010). Global trends in sustainability performance management. London, UK.

[5] Environment Science Center (ESC). (2007). Greener hospitals: improving environmental performance. University Augsburg, Germany.

[6] Environment Science Center (ESC). (2007). Greener hospitals: improving environmental performance. University Augsburg, Germany.

[7] Epstein, M. J. (2008). Introduction: Improving social and financial performance in global corporations. Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental and Economic Impacts, 19-32.

[8] Eshlaghy, A.T., Mottaghi, H., and Shafieyoun, R. (2011). Effective factors on sustainability of manufacturing processes, overcoming shrinkage in improved processes. African Journal of Business Management, 5 (7): 2700-2707.

[9] Fairfeild, K.D., Harmon, J., and Behson, S.J., (2011). Influences on the organizational implementation of sustainability: an intergrative model. Organization Management Journal, 8: 4-20.

[10] Gunasekaran, A., and Spalanzani, A. (2011) Sustainability of manufacturing and services: Investigations for research and applications. International Journal of Production Economics, 140 (1): 35-47.

[11] Health Care in Malaysia. Available at http://www.expatforum.com/articles/health/health-care-in-malaysia.html. Accessed July 26, 2012.

[12] Jameton, A., and McGuire, C. (2002). Toward sustainable health-care services: principles, challenges, and a process. International Journal of Sustainability in Higher Education, 3(2): 113-127.

[13] Jurgutis, A., Vainiomaki, P., and Stasys, R. (2011). Primary health care quality indicators for a more sustainable health care system in Lithuania. Management Theory and Studies for Rural Business and Infrastructure Development. 2 (26). Research Paper.

[14] Land, L. P. W., Pang, V., Cheng, A., Chik, C., Poon, S. K., Poon, J., and Attar, S. (2008). Explaining sustainability in healthcare – a preliminary study of an aged care organization in Australia. Pacific Asia Conference on Information Systems.

[15] Lawrence, G. (1997). Indicators for sustainable development. In: Dodds, F. (Ed.), The Way Forward: Beyond Agenda 21. Earthscan, London. 179–189.

[16] Lee, K.H. and Saen, R. F. (2012). Measuring corporate sustainability management: A data envelopment analysis approach. International Journal of Production Economics, 140 (1): 219–226.

[17] Li, G. and Li, Z., (2010). Research on performance evaluation system of power based on sustainable development. Information Science and Engineering (ICISE), 2010 2nd International Conference on 4-6 Dec. 2010. 3052-3055.

[18] Lieberson, J., Miller, D., Eckerson, D., and Keller, H. (1987). An evaluation of the factors of sustainability in the Gambia mass media and health practices project. A.I.D. Evaluation Special Study No. 51: U.S. Agency for International Development.

[19] Ling, T., Pedersen, J.S., Drabble S., Celia, C., Brereton, L., and Tiefensee, C. (2012). Sustainable development in the National Health Service (NHS): The views and values of NHS leaders. RAND Corporation.

[20] Malovics, G., Csigene N.N., and Kraus, S. (2008). The role of corporate social responsibility in

strong sustainability. The Journal of Socio-Economics. 37 (3): 907–918.

[21] Moldan, B., Janouskova, S., and Hak, T. (2012). How to understand and measure environmental sustainability: Indicators and targets. Ecological Indicators, 17: 4-13.

[22] Olsen, I.T. (1998). Sustainability of healthcare. Health Policy and Planning, 13 (3): 287-296.

[23] Porritt, J. (2005). Capitalism ss If the World Matters. London, UK: Earthscan.

[24] Samuel, P. S. (2008). Sustainability Performance Measurement for sustainable organizations: beyond compliance and reporting, 11th QMOD Conference. Quality Management and Organizational Development Attaining Sustainability from Organizational Excellence to Sustainable Excellence, 20–22 August, 2008 in Helsingborg, Sweden.

[25] Seidel, R.H.A., Shahbazpour, M. and Seidel, M.C. (2007). Establishing Sustainable Manufacturing Practices in SMEs. 2nd International Conference on Sustainability Engineering and Science, Talking and Walking Sustainability, Auckland.

[26] Shen, L., Tam, V. W. Y., Tam, L., and Ji, Y. (2010). Project feasibility study: the key to successful implementation of sustainable and socially responsible construction management practice. Journal of Cleaner Production, 15 (3): 254–259.

[27] Smith, M. E. F. (2012). Sustainable healthcare: a path to sustainability. Lund University University of Manchester, University of the Aegean, and Central European University.

[28] Szekely, F., and Knirsch, M. (2005). Responsible leadership and corporate social responsibility: metrics for sustainable performance. European Management Journal, 23 (6): 628–647.

[29] Xu, D., Rakesh, G. (2006). Is the Growth in China sustainable with the existing financial structure?. The Joint 14th Annual PBFEA and 2006 Annual FeAT Conference. Taipei.

[30] Zubir, A.F., Habidin, N.F., Conding, J., Jaya, N.A.S.L., and Hashim, S. (2012). The development of sustainable manufacturing practices and sustainable performance in Malaysian Automotive Industry. Journal of Economics and Sustainable Development.,3 (7): 130-138.